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REMARKS

This is a full and timely response to the non-final Official Action mailed **July 7, 2006** Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Claim Status:

Claims 19-50 were withdrawn from consideration under a previous Restriction Requirement. To expedite prosecution of this application, these claims are cancelled by the present amendment. The withdrawn claims are cancelled without prejudice or disclaimer. Applicant reserves the right to file any number of continuation or divisional applications to the withdrawn claims or to any other subject matter described in the present application.

No substantive amendments are made herein to original claims 1-18. Although, claims 1 and 2 are amended to correct minor typographical errors that have no bearing on the scope of the claims.

Additionally, new claims 51-61 have been added. Consequently, claims 1-18 and 51-61 are pending for further action.

Prior Art:

Claims 1-18 were rejected as being unpatentable under 35 U.S.C. § 103(a) over the teachings of U.S. Patent No. 6,059,943 to Murphy et al. ("Murphy") taken alone. For at least the following reasons, this rejection is respectfully traversed.

Claim 1 recites:

> A method for forming a fuel cell component comprising:
> depositing a hydroxide or a oxyhydroxide form of said component; and

hydrothermally dehydrating said hydroxide or oxyhydroxide form of said component;

wherein said hydrothermally dehydrating said component establishes a grain structure of said component.

In contrast, Murphy fails to teach or suggest any of the subject matter of claim 1. Murphy teaches "a cation-conducting composite membrane comprising an oxidation resistant polymeric matrix filled with inorganic oxide particles forming a connected network extending from one face of the membrane to another face of the membrane." (Murphy, col. 8, lines 47-51). According to Murphy, the "cation-conducting composite membranes of the present invention may be made by several processes of impregnating an inorganic oxide proton conductor into the pores of a porous polymer matrix." (Murphy, col. 9, lines 9-12).

Consequently, the teachings of Murphy apply to the production of an electrolyte membrane for a fuel cell. Murphy does not teach or suggest anything relative to the formation of other fuel cell components, such as an anode or cathode.

More importantly, Murphy does not teach or suggest "depositing a hydroxide or oxyhydroxide form of said [fuel cell] component" as claimed. Rather, Murphy teaches that the "composite membranes of the present invention may be made in a variety of ways." Murphy then goes on to detail eight different methods for producing composite membranes. (Murphy, col. 11, line 63 to col. 12, line 51). None of these methods include or suggest "depositing a hydroxide or a oxyhydroxide form of said [fuel cell] component" as claimed.

Some of these methods that Murphy discusses include the use of an oxide proton conductor that has been prepared previously. Murphy then mentions that one of the methods for producing the oxide proton conductor includes "hydrothermal treatment [to convert a] hydroxide to the oxide." (Murphy, col. 12, lines 52-59). However, this hydrothermal treatment is described as part of a separate process to prepare an oxide proton conductor for

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use in subsequent processes. Murphy does not teach or suggest "hydrothermally dehydrating said hydroxide or oxyhydroxide *form of said component*." (Emphasis added).

Thus, Murphy does not teach or suggest "depositing a hydroxide or a oxyhydroxide *form of said component*." (Emphasis added). Murphy further fails to teach or suggest "hydrothermally dehydrating said hydroxide or oxyhydroxide *form of said component*." (Emphasis added). In fact, the teachings of Murphy appear to be entirely inapposite to the subject matter of claim 1.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least these reasons, the rejection of claim 1 and its dependent claims based on Murphy should be reconsidered and withdrawn.

Additionally, the various dependent claims of the application recite subject matter that is further patentable over the teachings of Murphy. Specific, non-exclusive examples follow.

Claim 2 recites "further comprising firing said fuel cell component to an operating temperature of a fuel cell to fix a disposition of said fuel cell component." Murphy fails to teach or suggest this subject matter. In this regard, the Office Action cites Murphy at col. 13, lines 1-6. (Action of 7/7/06, p. 2). However, this portion of Murphy warns against heating proton conducting oxides, rather than suggesting the subject matter of claim 2.

Applicant further notes that the components produced under the claimed method are for use in "fuel cells with an operating temperature between 600 and 800 degrees Celsius." (Applicant's specification, paragraph 0020). In contrast, Murphy teaches "materials [that] are

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suitable for service at temperatures up to 250° C." (Murphy, col. 11, lines 29-32). For at least these additional reasons, the rejection of claim 2 should be reconsidered and withdrawn.

Claim 4 recites "wherein said fuel cell component comprises an anode." Claim 6 recites "wherein said fuel cell component comprises a cathode." Claim 7 recites "wherein said fuel cell component comprises an anode, an electrolyte, and a cathode coupled together." As noted above, Murphy does not teach or suggest anything about a method of forming an anode or cathode. For at least these additional reasons, the rejection of claims 4, 6 and 7 should be reconsidered and withdrawn.

Claim 8 recites "wherein said hydrothermally dehydrating said fuel cell component is performed simultaneously on said anode, said electrolyte, and said cathode." In contrast, Murphy does not teach or suggest hydrothermally dehydrating an anode, electrolyte and cathode of a fuel cell simultaneously. The recent Office Action fails to explain how or where Murphy teaches this subject matter. For at least these additional reasons, the rejection of claim 8 should be reconsidered and withdrawn.

Claim 9 recites "wherein said hydrothermally dehydrating said fuel cell component is performed individually on each of said anode, said electrolyte, and said cathode." In contrast, Murphy utterly fails to teach or suggest this subject matter. For at least this additional reason, the rejection of claim 9 should be reconsidered and withdrawn.

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Claim 11 recites "wherein said low temperature support structure comprises a fuel manifold." In contrast, Murphy utterly fails to teach or suggest this subject matter. For at least this additional reason, the rejection of claim 9 should be reconsidered and withdrawn.

Claims 1, 3, 10 and 12-16 were alternatively rejected under 35 U.S.C. § 103(a) over the combined teachings of Murphy and U.S. Patent Application Pub. No. 2005/0026019 to Herman et al. ("Herman"). This rejection is respectfully traversed because Herman is not valid prior art against the present application.

Herman is a published U.S. patent application that was filed July 28, 2003 and published February 3, 2005. The present application was, however, filed July 23, 2003 *before* the filing date of the Herman application. Consequently, Herman cannot be applied in any rejection against the present application.

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Conclusion:

The newly added claims are thought to be patentable over the prior art of record for at least the same reasons given above with respect to the original independent claims. Therefore, examination and allowance of the newly added claims is respectfully requested.

For the foregoing reasons, the present application is thought to be clearly in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. If the Examiner has any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

DATE: October 6, 2006

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